Flight-Testing Newton's Laws			
2010 Science			
Academic Content Standards			
Ohio Science			
Grades 9-12 (Physical Science)			
Activity/Lesson	**State**	**Standards**	
Session-10 (1-5)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-1 (1-17)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-2 (1-10)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-3 (1-6)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-5 (1-6)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-6 (1-8)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-7 (1-5)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-8 (1-9)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
Session-9 (1-7)	OH	SCI.9-12.2.1	Motion of an object is a measurable quantity that depends on the observer's frame of reference and is described in terms of position, speed, velocity, acceleration and time.
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Activity/Lesson	**State**	**Standards**	
Session-10 (1-5)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-10 (1-5)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces

Session-1 (1-17)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-1 (1-17)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-1 (1-17)	OH	SCI.9-12.3.1	Students engage in investigations to understand work can be calculated for situations in which the force and the displacement are at angles using the equation $W=F\Delta x(\cos\theta)$ where W is the work, F is the force, Δx is the displacement, and θ is the angle between the force and the displacement. The rate of energy change or transfer is called power (P) and can be mathematically represented by $P = \Delta E / \Delta t$ or $P = W / \Delta t$.
Session-2 (1-10)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-2 (1-10)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-3 (1-6)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-3 (1-6)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-3 (1-6)	OH	SCI.9-12.2.3	Students engage in investigations to understand and explain momentum, conservation of momentum
Session-4 (1-11)	OH	SCI.9-12.2.3	Students engage in investigations to understand and explain momentum, conservation of momentum
Session-5 (1-6)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-5 (1-6)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-6 (1-8)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-6 (1-8)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-7 (1-5)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-7 (1-5)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-8 (1-9)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-8 (1-9)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces
Session-9 (1-7)	OH	SCI.9-12.2.1	Explain the movement of objects by applying Newton's Laws with balanced forces
Session-9 (1-7)	OH	SCI.9-12.2.2	Explain the movement of objects by applying Newton's Laws with unbalanced forces